

This listing of the claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

1. (Currently amended) A method of forming a microelectronic structure comprising:  
  
forming and patterning a deep uv resist layer on a ~~substrate~~ sacrificial light absorbing layer disposed on a dielectric layer; and  
  
etching the ~~substrate~~ sacrificial light absorbing layer and the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio from about 1:1 to about 2:3 to form substantially vertical sidewalls in the deep uv resist layer.
2. (Original) The method of claim 1 wherein forming and patterning the deep uv resist layer comprises forming a deep uv resist layer and exposing at least a portion of the deep uv resist layer to a light with a wavelength of about 200 nanometers or less.
3. (Currently amended) The method of claim 1 wherein etching the ~~deep uv resist layer and the substrate~~ sacrificial light absorbing layer and the dielectric layer in the plasma to form substantially vertical sidewalls comprises etching the ~~substrate~~ sacrificial light absorbing layer and the dielectric layer in the plasma to form a polymer on the sidewalls of the deep uv resist layer that substantially prevents the deep uv resist layer from being etched.

4. (Original) The method of claim 1 wherein forming the deep uv resist layer comprises forming the deep uv resist layer wherein the deep uv resist layer comprises a pre-etch sidewall angle that is substantially the same as a post etch sidewall angle.
5. (Currently amended) The method of claim 1 further comprising etching the sacrificial light absorbing layer and the dielectric layer ~~substrate~~ in a plasma generated from a gas comprising  $C_4F_6$ , and a pressure from about 15 to about 100 millitorr.
6. (Currently amended) The method of claim 5 further comprising etching the ~~substrate~~ sacrificial light absorbing layer and the dielectric layer with a power from about 1000 to about 4000 Watts, a  $C_4F_6$  gas flow from about 10 to about 50 sccm, an argon flow from about 100 to about 1000 sccm, and a nitrogen flow from about 50 to 100 sccm.
7. (Canceled)
8. (Currently amended) The method of claim 7 1 wherein etching the sacrificial light absorbing layer ~~disposed on~~ and the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio from about 1:1 to about 2:3 comprises:

substantially etching the sacrificial light absorbing layer and then substantially etching the underlying dielectric layer by utilizing a plasma generated from a gas comprising  $C_4F_6$ .

9. (Original) The method of claim 8 further comprising substantially etching the sacrificial light absorbing layer and then substantially etching the underlying dielectric layer in a pressure from about 15 to about 100 millitorr and a power from about 1000 to about 4000 Watts.

10. (Original) The method of claim 8 further comprising substantially etching the sacrificial light absorbing layer and then substantially etching the underlying dielectric layer in a  $C_4F_6$  gas flow from about 10 to about 50 sccm, an argon flow from about 100 to about 1000 sccm, and a nitrogen flow from about 50 to 100 sccm.

11. (Currently amended) The method of claim 1 wherein etching the ~~substrate~~ sacrificial light absorbing layer and the dielectric layer in the plasma to form a substantially vertical sidewall in the deep uv resist layer comprises etching the ~~substrate~~ sacrificial light absorbing layer and the dielectric layer in the plasma to form a sidewall angle that is between about 86 and about 90 degrees.

12. (Currently amended) The method of claim 1 wherein forming and patterning the deep uv resist layer on a ~~substrate~~ sacrificial light absorbing layer and the dielectric layer comprises forming and patterning the deep uv resist layer on a

~~substrate~~ the sacrificial light absorbing layer and the dielectric layer, wherein the deep uv resist layer comprises an acrylic polymer.

13. (Original) A method of forming a microelectronic structure comprising:  
forming and patterning a deep uv resist layer on a sacrificial light absorbing layer disposed on a dielectric layer; and  
etching the sacrificial light absorbing layer and the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3, at an etch rate from about 80 to about 120 times faster than the etch rate of the deep uv resist layer in the plasma.

14. (Original) The method of claim 13 further comprising etching the sacrificial light absorbing layer and the dielectric layer in a plasma generated from a gas comprising  $C_4F_6$ .

15. (Original) The method of claim 14 further comprising etching the sacrificial light absorbing layer in a pressure from about 40 to about 60 millitorr, and then etching the dielectric layer in a pressure from about 80 to about 120 millitorr.

16. (Original) The method of claim 15 further comprising:  
etching the sacrificial light absorbing layer in a  $C_4F_6$  gas flow from about 14 to about 20 sccm, an argon flow from about 300 to about 500 sccm, and a nitrogen flow from about 200 to 400 sccm; and

etching the dielectric layer in a  $C_4F_6$  gas flow from about 10 to about 14 sccm, an argon flow from about 280 to about 350 sccm, and a nitrogen flow from about 25 to 40 sccm.

17. (Original) A method of forming a microelectronic structure comprising:  
forming a deep uv resist layer on a sacrificial light absorbing layer that is disposed on a dielectric layer;

patterning a portion of the sacrificial light absorbing layer to define a trench;  
forming a bottom width of the trench, wherein the ratio of the bottom width to a top width of the trench is about 1:1 by:

etching the sacrificial light absorbing layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3; and

etching the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3.

18. (Original) The method of claim 17 wherein etching the sacrificial light absorbing layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3, comprises etching the sacrificial light absorbing layer in a plasma generated from a gas comprising  $C_4F_6$ ,

19. (Original) The method of claim 18 further comprising etching the sacrificial light absorbing layer in a pressure from about 40 to about 60 millitorr and a power from about 1000 to about 4000 Watts,
20. (Original) The method of claim 19 further comprising etching the sacrificial light absorbing material in a  $C_4F_6$  gas flow from about 10 to about 20 sccm, an argon flow from about 400 to about 500 sccm, and a nitrogen flow from about 200 to about 400 sccm.
21. (Original) The method of claim 17 wherein etching the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio gas that is between about 1:1 to about 2:3 comprises etching the dielectric layer in a plasma generated from a gas comprising  $C_4F_6$ , a pressure from about 90 to about 110 millitorr, a  $C_4F_6$  gas flow from about 10 to about 15 sccm, an argon flow from about 250 to about 350 sccm and a nitrogen flow from about 20 to about 50 sccm.

Claims 22-27 (Canceled).

28. (New) A method of forming a microelectronic structure comprising:
- forming and patterning a deep uv resist layer on a sacrificial light absorbing layer disposed on a dielectric layer;
- etching the sacrificial light absorbing layer in a plasma comprising a  $C_4F_6$  gas flow from about 14 to about 20 sccm, an argon flow from about 300 to about

500 sccm, a nitrogen flow from about 200 to 400 sccm and a pressure from about 40 to about 60 millitorr; and

etching the dielectric layer in a plasma comprising a  $C_4F_6$  gas flow from about 10 to about 14 sccm, an argon flow from about 280 to about 350 sccm, a nitrogen flow from about 25 to 40 sccm and a pressure from about 80 to about 120 millitorr, wherein the sacrificial light absorbing layer and the dielectric layer etch at an etch rate from about 80 to about 120 times faster than the etch rate of the deep uv resist layer.

29. (New) A method of forming a microelectronic structure comprising:

forming a deep uv resist layer on a sacrificial light absorbing layer that is disposed on a dielectric layer;

patterning a portion of the sacrificial light absorbing layer to define a trench;

forming a bottom width of the trench, wherein the ratio of the bottom width to a top width of the trench is about 1:1 by:

etching the sacrificial light absorbing layer in a plasma comprising  $C_4F_6$  gas at a gas flow from about 10 to about 20 sccm, an argon flow from about 400 to about 500 sccm, and a nitrogen flow from about 200 to about 400 sccm, a pressure from about 40 to about 60 millitorr and a power from about 1000 to about 4000 Watts; and

etching the dielectric layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3.

30. (New) A method of forming a microelectronic structure comprising:

- forming a deep uv resist layer on a sacrificial light absorbing layer that is disposed on a dielectric layer;
- patterning a portion of the sacrificial light absorbing layer to define a trench;
- forming a bottom width of the trench, wherein the ratio of the bottom width to a top width of the trench is about 1:1 by:
  - etching the sacrificial light absorbing layer in a plasma generated from a gas comprising a carbon to fluorine ratio that is between about 1:1 to about 2:3;
  - and
  - etching the dielectric layer in a plasma comprising  $C_4F_6$  at a gas flow from about 10 to about 15 sccm, an argon flow from about 250 to about 350 sccm and a nitrogen flow from about 20 to about 50 sccm, and a pressure from about 90 to about 110 millitorr.